

## REMARKS

### I. Introduction

Claims 1-49 are pending in the present application. In an August 10, 2006, Office Action (herein "Office Action"), Claims 16, 17, 31, and 32 were rejected as reciting computer-readable medium and system claims that are dependent on method claims. Claims 31 and 32 were rejected under 37 C.F.R. 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Still further, Claims 16, 17, 31, and 32 were rejected under 35 U.S.C. § 101 for embracing three different statutory classes of invention. Claims 1-49 were rejected under 35 U.S.C. § 101 for being directed to nonstatutory subject matter. Claims 16, 17, 31, and 32 were rejected under 35 U.S.C. § 112 for being indefinite. Claims 1, 2, 8-13, 16-25, 33-41 and 49 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication No. 2005/0246231, to Shkedi (hereinafter "Shkedi"). Claims 3-7, 26-30 and 44-48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shkedi in view of International Publication No. WO 01/001318, to Thurston (hereinafter "Thurston"). Claims 14, 15, 31, 32, 42, and 43 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shkedi.

### II. Claim Objections

Claims 16, 17, 31, and 32 were rejected as reciting computer-readable medium and system claims that are dependent on method claims. Claims 31 and 32 were rejected under 37 C.F.R. 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 16 and 17 have been cancelled without prejudice. Claims 31 and 32 have been amended to reflect its dependency on a method claim. Further, applicants amend Claims 31 and 32 to clarify the limitation according to 37 C.F.R. 1.75(a). Applicants respectfully submit that

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168 array elements and 1 hour increments limit the subject matter of the previous claim. Accordingly, Claim 1, which Claims 31 and 32 are dependent on, restricts the subject matter only to a plurality of array elements corresponding to a time period.

III. 35 U.S.C. § 101 Rejection

Claims 16, 17, 31, and 32 were rejected under 35 U.S.C. § 101 on the theory that the claims are neither directed towards a "computer readable medium" nor a "system" or "method." Rather, as stated by the Examiner, the claims embrace or overlap three different statutory classes of invention set forth in 35 U.S.C. § 101, which was drafted so as to set forth the statutory classes of invention in the alternative only. In regard to the rejection of Claims 16, 17, 31, and 32, Claims 16 and 17 have been cancelled. Claims 31 and 32 have been amended to recite method claims.

Claims 1-49 were rejected under 35 U.S.C. § 101 as not setting forth a concrete, useful, and tangible result. Specifically, the Examiner states that the claims are simply generating an array of data without any practical application to said data. With respect to the rejections of Claims 1-49, an invention is useful if it is capable of providing some identifiable benefits. *Juicy Whip, Inc. v. Orange Bang, Inc.*, 185 F.3d 1364, 1366 (1999). The present invention teaches a method for processing payload requests. The payload processing component generates a set of arrays corresponding to each criterion in the set of payload criteria. Each array has a plurality of elements that indicate time periods. The payload processing component increments a numerical identifier in the plurality of elements corresponding to a time a payload request was obtained.

A primary focus on the advertisement delivery system relates to the selection of an advertisement from a variety of potentially applicable advertisements as to better comply with the contractual obligation of the current advertisement campaigns. In addition, the advertisement delivery system determines future display opportunities through the arrays that are incremented

based on obtained criteria and time. Therefore, Claims 1-49 present statutory subject matter and reconsideration and allowance of the claims is respectfully requested.

IV. 35 U.S.C. § 112 Rejection

Claims 16, 17, 31, and 32 were rejected under 35 U.S.C. § 112. More specifically, the Examiner states that the Claims were indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. A single claim which claims both a computer-readable medium, a system, and method steps of using said medium is indefinite under 35 U.S.C. § 112, second paragraph. In *Ex parte* Lyell, 17. USPQ2d 1548 (Bd. Pat. App. & Inter. 1990).

Claims 16 and 17 have been cancelled without prejudice. Claims 31 and 32 have been amended to reflect their dependency on a method claim. Applicant respectfully requests withdrawal of the § 112 rejection and allowance of Claims 31 and 32.

V. Claim Rejections

A. Introduction

Claims 1, 2, 8-13, 16-25, 33-41, and 49 were rejected under 35 U.S.C. § 102(e) as being anticipated by Shkedi. Claims 3-7, 26-30, and 44-48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shkedi in view of Thurston. Claims 14, 15, 31, 32, 42, and 43 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shkedi. For the following reasons, applicants respectfully submit that Claims 1-15 and 18-49 are not anticipated by Shkedi and are not obvious over Shkedi or in combination with Thurston because Shkedi and Thurston, either alone or in combination, fail to teach or suggest generating a set of arrays corresponding to each criterion in the set of criteria, the set of arrays including a plurality of array elements corresponding to periods of time. Further, the prior art fails to teach or suggest incrementing a numerical identifier in the plurality of array elements corresponding to the time associated with a

payload request. Still further, the prior art fails to teach or suggest processing the numerical identifiers in the set of arrays to predict an estimated number of future payload requests.

Prior to discussing more detailed reasons why applicants believe that all of the claims of the present application, as amended, are allowable over the cited references, a brief description of the present invention and the cited references is presented.

I. Summary of the Present Invention

The present invention is generally related to a method, system, and computer-readable medium for estimating available inventory by tracking atomic market segments. More specifically, the present application generates a set of arrays according to a set of criteria. Each array within the set of arrays contains a plurality of elements that are defined by time intervals. The plurality of elements contain numerical identifiers that are incremented each time a payload request is made that matches to the corresponding time and criterion payload request.

In one aspect of the present invention, an advertisement delivery system generates one or more atomic market segment arrays from target market criteria for one or more advertisement campaigns to be served. The arrays includes 168 elements divisible by 1 hour increments corresponding to a week's worth of monitoring information.

Numerous advantages may be realized by the system or method recited in the claims of the present application. In one aspect, the advertisement system ensures that resources in terms of memory, processing capability, and personnel to satisfy future advertisement delivery system obligations are more efficient. In another aspect, the present invention maximizes the amount of revenue that can be generated by the sale of all, or substantially all, the estimated future display opportunities.

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2. U.S. Publication No. WO 2005/0246231, to Shkedi

Shkedi is purportedly directed toward a method for performing an advertisement transfer. (Abstract). The method facilitates expressing the rate structure for an individual advertisement as a function of a profile of the individual customer. (Paragraph 20). The visitor profile includes information about the user and determines which type of fee will be charged to the distributor for sending an advertisement to the visitor. (Paragraphs 90, 102).

To determine a fee, a matching tree structure is generated from a collection of profiles of a bid. (Paragraph 197). The collection of profiles are generated from combining attributes corresponding to a vector of bid attributes. (Paragraph 198). Each bid attribute holds a criteria, an optional Must tag, and a vector of values. The creation of profiles is repeated for every bid. (Paragraph 232).

Once the collection of profiles are generated from the bid, the matching tree is created. (Paragraph 232). Each one of the bid's profile combinations is a branch in the matching tree. (Paragraph 250). At the end of the branch, a list is created for storing a number of bids that matched the profile of a bid. (Paragraphs 251, 252). The list is sorted in descending order by price. The method allocates the advertisement space that will be represented to the visitor with the given profile to the highest bidder that answers to the constraints. (Paragraph 294).

Shkedi fails to teach or suggest generating a set of arrays corresponding to each criterion in the set of criteria, the set of arrays including a plurality of array elements corresponding to periods of time. Further, the prior art fails to teach or suggest incrementing a numerical identifier in the plurality of array elements corresponding to the time associated with a payload request.

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3. International Publication No. WO 01/001318, to Thurston

Thurston is purportedly directed to a method or system for planning and scheduling advertisement media over a network. (Page 1, lines 10-11). In one aspect of the invention, Thurston teaches forecasting delivery of advertisement media based on the historical activities of users in a true database. (Page 8, lines 14-16).

B. The Claims Distinguished

1. 35 U.S.C. § 102(e) Rejection

a. Claims 1, 18, and 34

Claim 1, as amended, reads as follows:

1. A method for processing payload requests, the method comprising:

obtaining a set of criteria for delivering at least one payload, the set of criteria including one or more criterion;

generating a set of arrays corresponding to each criterion in the set of criteria, wherein each array in the set of arrays includes a plurality of array elements corresponding to periods of time;

obtaining a request for a payload, the payload request including a set of requests having one or more criterion wherein the payload request is associated with a time; and

incrementing a numerical identifier in the plurality of array elements corresponding to the time associated with the payload request.

Similarly, Claim 18, as amended, reads as follows:

18. A system for processing payload requests, the payload requests associated with a set of payload criteria having one or more criterion, the system comprising:

a payload processor operable to obtain the payload criteria and generate a set of arrays corresponding to each criterion in the set of payload criteria, wherein each array in the set of arrays includes a plurality

of array elements corresponding to periods of time, the payload processor further operable to obtain a set of payload request criteria and increment a numerical identifier in the plurality of array elements corresponding to a time associated with the payload request; and

a payload manager operable to obtain the set of arrays and to process data within the set of arrays.

Claim 34, as amended, reads as follows:

34. A computer-readable medium having computer-executable components for processing payload requests, the computer-readable medium comprising:

a payload processing component operable to obtain payload criteria including one or more criterion corresponding to a payload request and generate a set of arrays corresponding to each criterion in the set of payload criteria, wherein each array in the set of arrays includes a plurality of array elements corresponding to periods of time, the payload processing component further operable to obtain a set of payload request criteria and increment a numerical identifier in the plurality of array elements corresponding to a time associated with the payload request; and

a payload manager operable to obtain the set of arrays and to process data within the set of arrays.

generating a set of arrays corresponding to each criterion in the set of criteria, wherein each array in the set of arrays includes a plurality of array elements corresponding to periods of time;

Shkedi does not teach "generating a set of arrays corresponding to each criterion in the set of criteria, wherein each array in the set of arrays includes a plurality of array elements corresponding to periods of time." Instead, Shkedi teaches generating a set of trees corresponding to each criterion (attribute) in the set of criteria, wherein each tree in the set of trees includes a unique set of values. (Figure 6; Paragraphs 165-66). As taught in Shkedi, a criterion combined with the unique set of values form a tree: the criterion forming the top node of the tree and the values forming branches of the tree. (Paragraphs 232, 296). The tree structure

is used for searching and matching operations (Paragraph 157), rather than for incrementing values through an index. It is generally understood that a tree structure is fundamentally different than an array. Accordingly, arrays are stored contiguously in memory so that values within the array are easily incremented. Therefore, Shkedi does not teach "generating a set of arrays corresponding to each criterion in the set of criteria, wherein each array in the set of arrays includes a plurality of array elements corresponding to periods of time."

Shkedi also does not teach "incrementing a numerical identifier in the plurality of array elements corresponding to the time associated with a payload request." Rather, Shkedi teaches determining rate prices based on the amount of matched values to the user's profile. (Paragraph 102). As taught in Shkedi, the price of a profile combination is the sum of prices for all the required (Must) values of the bid. (Paragraph 225). When a payload request is made, the tree corresponding to a criterion is searched for matching values. (Paragraph 281-91). The end node of the tree contains a list of bid prices summed up from the matched values of the user's profile. (Paragraphs 157, 177). The node matches the given visitor profile with a set of given bids and returns the largest bid. (Paragraph 295). Because the bid prices are already within a list at the end node of the matching tree, Shkedi in no way teaches incrementing a numerical identifier in the set of arrays corresponding to a payload request.

Under Section 102(e), a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (February 2003). Applicants respectfully submit that Shkedi fails to expressly or inherently teach each and every element of Claims 1, 18, and 34. As explained above, Shkedi fails to teach or suggest generating a set of arrays corresponding to each criterion in the set of criteria, the set of arrays including a plurality of array elements corresponding to periods of time. Further, the



prior art fails to teach or suggest incrementing a numerical identifier in the plurality of array elements corresponding to the time associated with a payload request. Accordingly, applicants respectfully request withdrawal of the pending rejection under 35 U.S.C. § 102 with regard to Claims 1, 18, and 34.

b. Claims 2, 8-13, 19-25, 35-41, and 49

Dependent Claims 2, 8-13, 19-25, 33, 35-41, and 49 were rejected under 35 U.S.C. § 102(e) as anticipated by Shkedi. Because a dependent claim carries each and every limitation of the claim it depends on, the reference fails to teach the limitation as discussed above. Accordingly, for this reason, applicants respectfully request withdrawal of the rejection of Claims 2, 8-13, 19-25, 33, 35-41, and 49.

2. 35 U.S.C. § 103(a) Rejection

a. Claims 3-7, 26-30, and 44-48

Dependent Claims 3-7, 26-30, and 44-48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shkedi in view of Thurston. The Examiner rejects Claims 3, 26, and 44 stating that Shkedi in view of Thurston teaches "[t]he method as recited in Claim 1 further comprising processing the numerical identifiers in the set of arrays to predict an estimated number of future payload requests." More specifically, the Examiner states:

Shkedi teaches the method as recited in Claim 1 but fails to teach further comprising processing the numerical identifiers in the set of arrays to predict an estimated number of future payload requests. However, Thurston teaches a system, which forecast advertisement requests based upon user's historical activities (see page 8, lines 13-16). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Shkedi would use the users' historical activity request, as taught by Thurston in order to forecast the delivery of advertisements to said users for the purpose of optimizing said delivery. Office Action, p. 7-8.

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Shkedi is purportedly directed toward a method for performing an advertisement transfer. (Abstract). Thurston is purportedly directed toward a method for forecasting advertisement requests based upon users' historical activities (see page 8, lines 13-16). A proposed modification or combination of prior art that would change the principle of operation of the prior art cannot establish prima facie obviousness. Manual of Patent Examining Procedures § 2143.01. Because Shkedi is directed toward an advertisement transfer and not a method for forecasting advertisement requests, as directed by Thurston, combining the two would be incompatible. Accordingly, for this reason, applicants respectfully request withdrawal of the rejection of Claims 3, 26, and 44.

Because a dependent claim carries each and every limitation of the claim it depends on, the reference fails to teach the limitations as discussed above. Accordingly, applicants respectfully request withdrawal of the rejection of Claims 3-7, 26-30, and 44-48.

b. Claims 14, 15, 31, 32, 42, and 43

Dependent Claims 14, 15, 31, 32, 42, and 43 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shkedi in view of Thurston. Because a dependent claim carries each and every limitation of the claim it depends on, the reference fails to teach the limitation as discussed above. Accordingly, for this reason, applicants respectfully request withdrawal of the rejection of Claims 14, 15, 31, 32, 42, and 43.

VI. Conclusion

Based on the above-referenced arguments and amendments, applicants respectfully submit that all pending claims of the present application are patentable and allowable over the cited and applied references. Because the cited and applied references fail to teach or suggest: (1) generating a set of arrays corresponding to each criterion in the set of criteria, the set of arrays including a plurality of array elements corresponding to periods of time; (2) incrementing

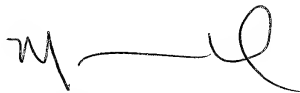
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a numerical identifier in the plurality of array elements corresponding to the time associated with a payload request; and (3) processing the numerical identifiers in the set of arrays to predict an estimated number of future payload requests, applicants respectfully request withdrawal of the rejections of the claims and allowance of the present application.

If any questions remain, applicants request that the Examiner contact the undersigned at the telephone number listed below.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Mauricio A. Uribe', with a stylized flourish at the end.

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